

ABB Automation



shorter lead times, higher production reliability, rapid return on investment

Flexicell is a range of spot-welding cells specially designed for the body assembly workshops of car manufacturers and equipment suppliers.

Built from standardised components, Flexicell production cells can be used independently or in combination with others to equip assembly lines and preparation islands.

■ Durable capacity investment

Thanks to their modular design based on standard components, Flexicell cells guarantee long-term profitability, since more than 60% of their parts are reusable.

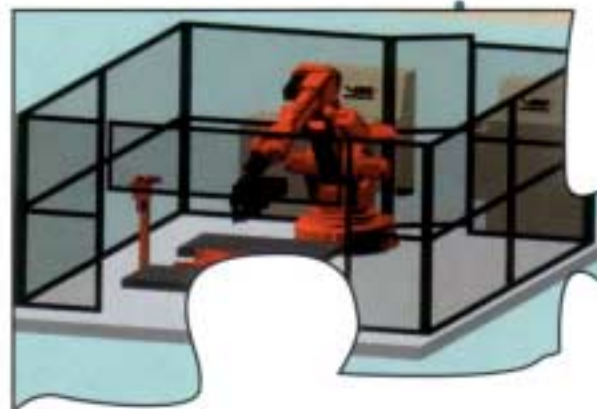
The use of quick-fit tooling devices enables the equipment to be quickly adapted to new production needs or to batch production manufacturing.

The total autonomy of the cells facilitates workshop reorganisations.

■ High reliability

Every component of a Flexicell is individually tested in our workshops before use. They are all highly reliable, mass-produced units.

The versatility of the welding and handling capacities of the robots eliminates the need for expensive, less-reliable peripheral systems.



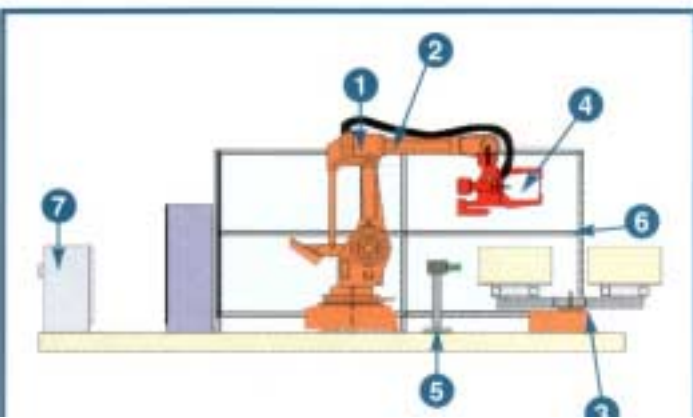
■ Shorter lead times

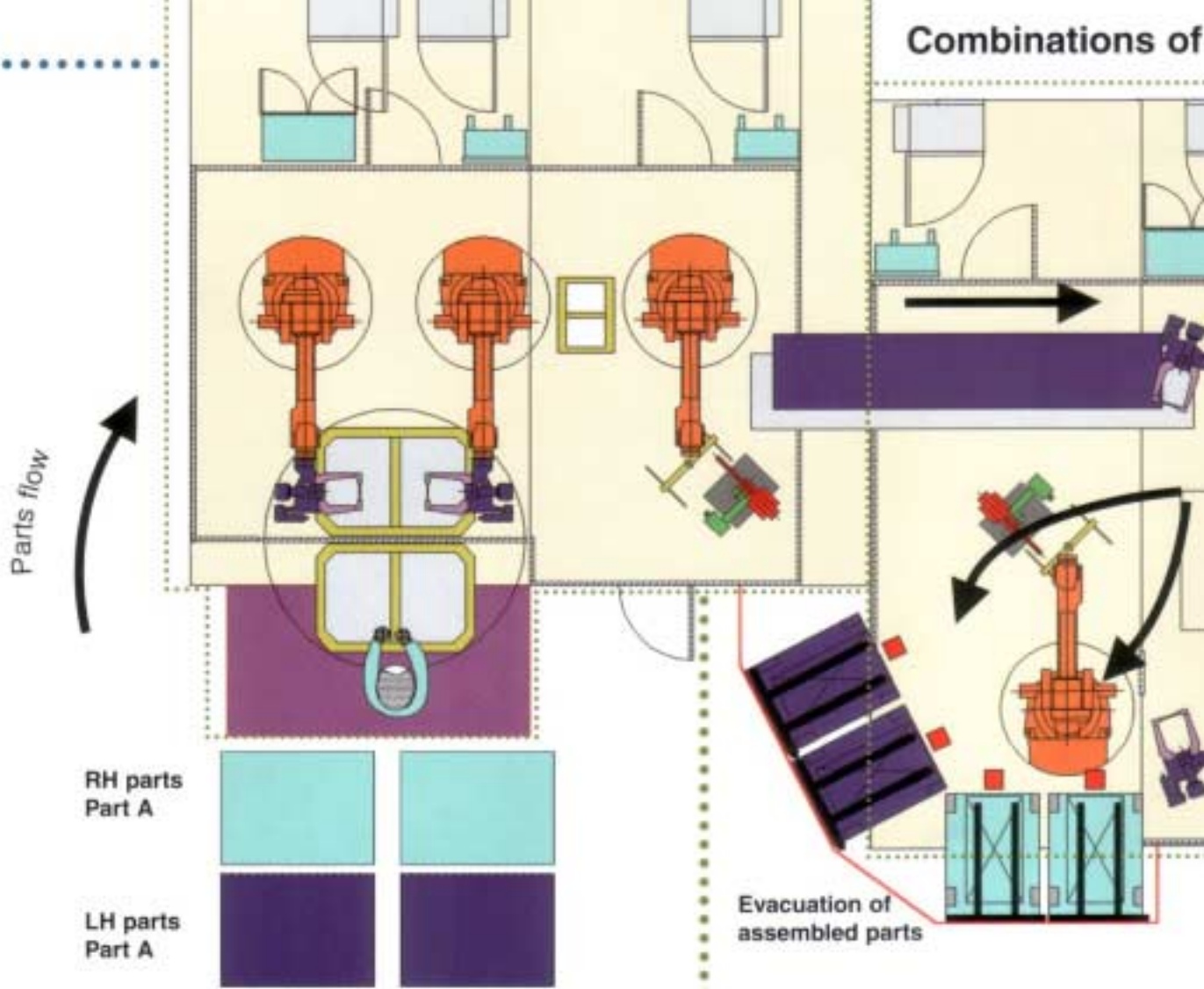
The choice of pre-designed cells significantly reduces both the time required to design an assembly line and the volume and duration of mechanical and automation studies. Based on a standard concept, the standard and specific parts of a project can be developed in parallel, which reduces lead times. The installation and commissioning on site takes only a few days thanks to the use of special platforms on which all the parts of the cell are mounted.

Composition of cells

All cells are composed of the following basic subsystems:

- 1 ABB IRB 6400 robot
- 2 ABB M98 welding pack
- 3 ABB IRBP C500, L250 to 5000 orbit positioners
- 4 NC electrical welding gun
- 5 Electrode tip dressing unit
- 6 Operator safety system



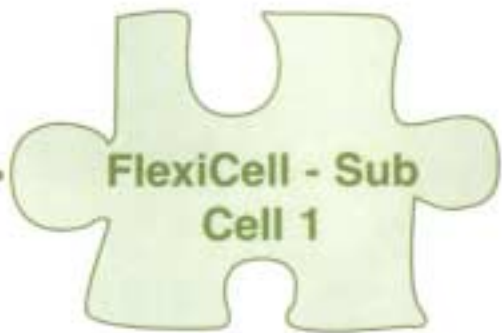


Examples of combination of Flexicell cells

Combination of cells enables rapid and easy definition of a complete assembly line. The whole system is highly reliable due to the use of standard components. A large part of the system can be recycled for use in a different assembly line.

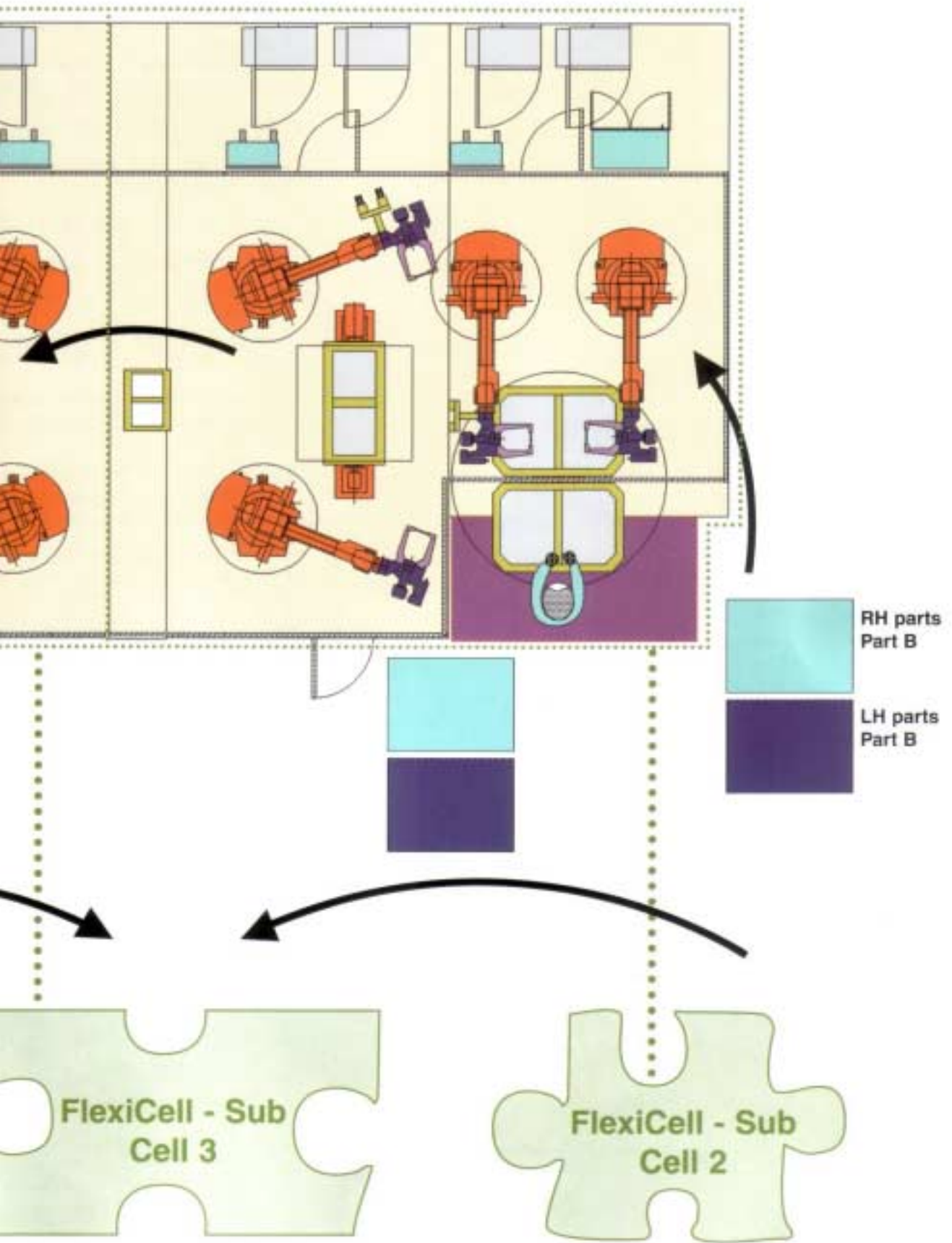
Characteristics :

Assembly of right- and left-hand parts
 Capacity: 600 parts/day
 Number of spot welds: 150 (RH parts), 150 (LH parts)
 Production in 2 shifts
 50% reduction of the design time



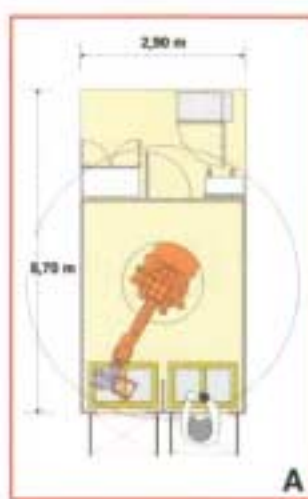
Assembly of part A of the pillar

II cells



Final assembly of the pillar

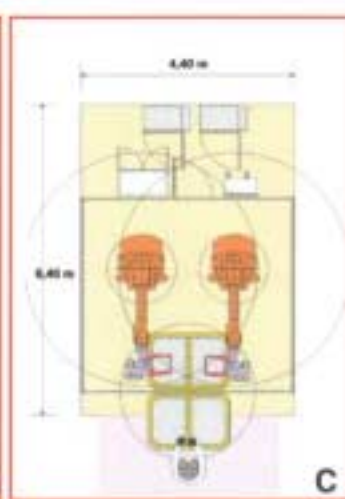
Assembly of part B of the pillar



A



B

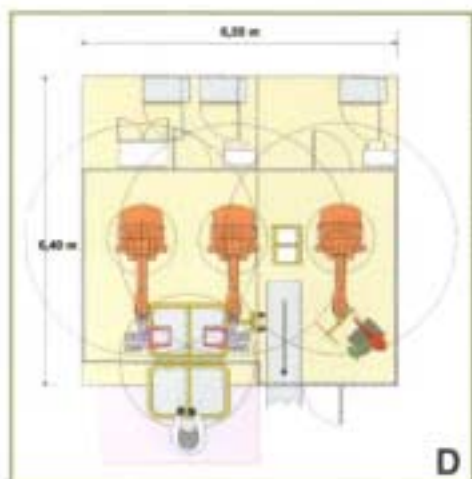


C

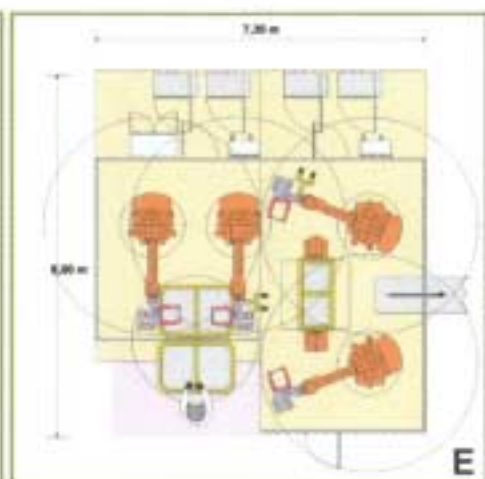
FlexiCell - Solo

Autonomous cells for preparation of body parts.

- Loading/unloading by the operator.
- Capacity: 1,000 to 2,000 welds/hour.
- A** - 1 robot and 2 fixed-geometry tools
- B** - 1 robot and 2 geometry tools on orbit positioner
- C** - 2 robots and 2 geometry tools on orbit positioner



D

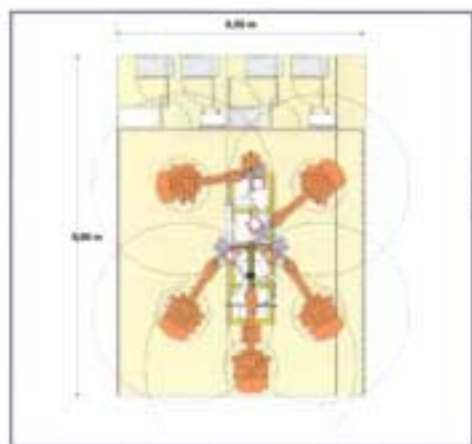


E

FlexiCell - Sub

Islands of cells for assembly of body subassemblies.

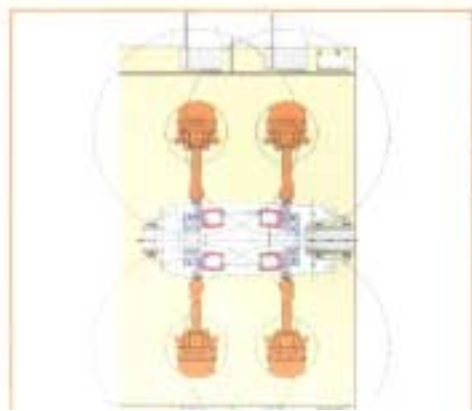
- Loading by the operator.
- Unloading by robots.
- Capacity: 3,000 to 4,000 welds/hour
- D** - 3 robots: 2 geometry tools on orbit positioner and 1 floor-level finishing clamp
- E** - 4 robots: 2 geometry tools on orbit positioner and 2 finishing tools on drums



FlexiCell - Unit

Finishing cell for bodywork subassemblies.

- Loading/unloading by robot.
- Capacity: 4,000 welds/hour.
- Up to 4 welding robots: 1 or 2 geometry tools on drums and 1 handling robot.



FlexiCell - Line

Finishing cells for underbody and body.

- Transfer via fast roller table with elevator and part positioning.
- Capacity: 4,000 welds/hour.
- Up to 4 welding robots.

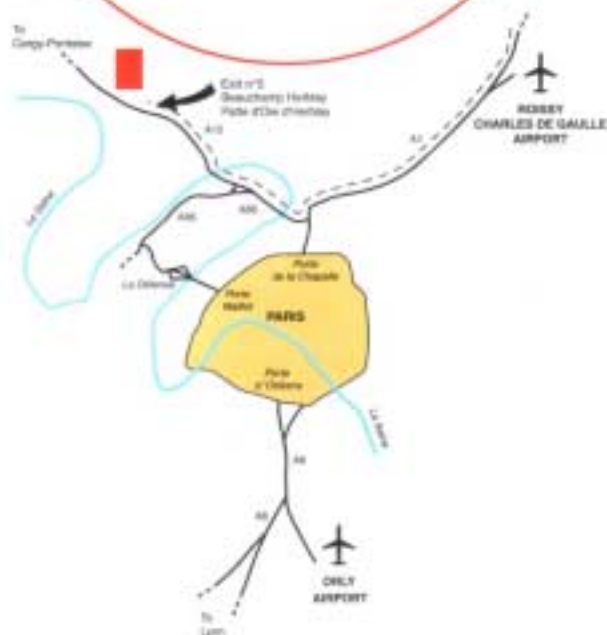
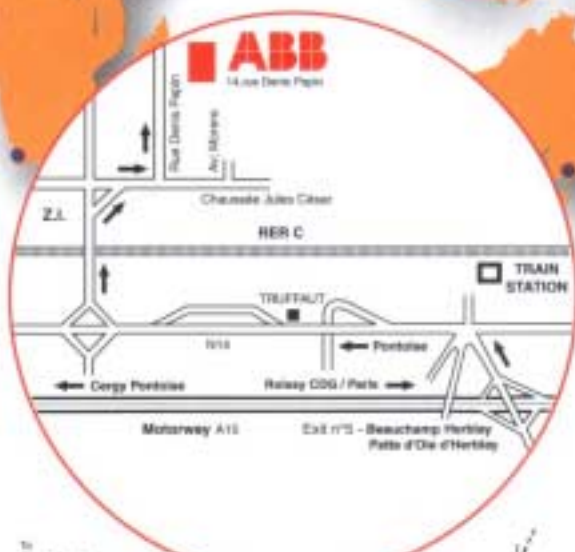
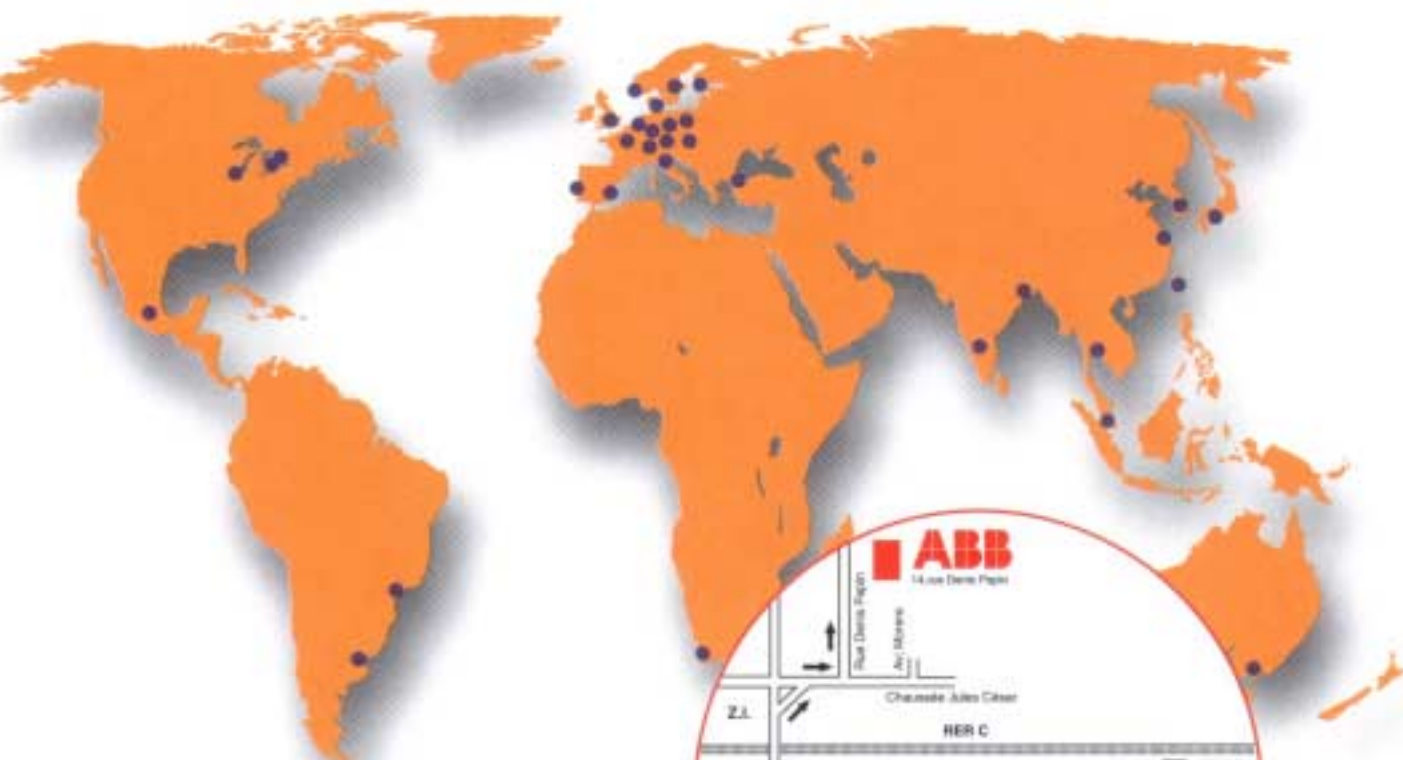


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